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ABSTRACT

A model for evaluating an educational program for disadvantaged families (the Expanded Food and Nutrition Education Program, EFNEP) is presented and discussed. The steps in program evaluation are given; these steps are: Rationale; Goals, Intents, Objectives; Antecedents; Transactions; and Outcome. The collection of data is described, and the use of content analysis in EFNEP is discussed. The three major elements of evaluation are given as criteria, standards, and judgments. The three types of criteria necessary for evaluating evaluation information are said to be scientific, practical and prudential. It is concluded that in order to improve the level of evaluation being done in adult education, adult educators need to evaluate their own evaluation efforts and use the results to improve future efforts. References are provided. (DB)

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# A MODEL FOR EVALUATING EDUCATIONAL PROGRAMS AIMED AT DISADVANTAGED FAMILIES

by

Elizabeth Elliott

While most adult educators agree on the need for program evaluation, in practice, there is little consensus as to the essential characteristics of such evaluation. Only in recent years has the adult education profession begun to develop it's own literature on evaluation. Previously we just adapted the literature (and very often the philogophy and methodology) of public school evaluation to adult education programs. Early evaluation efforts in adult education focused on attendance at meetings or adoption of practices. Evaluation in terms of program objectives has also received emphasis and recently evaluation aimed at program improvement has received some attention.

As adult educators become more involved in social action type programs, the need for a different approach to evaluation becomes apparent. Most social action programs are not single purpose or homogeneous; therefore, it is necessary to evaluate several aspects of the program. Adequate measurement of a social science concept frequently requires the use of more than one indicator since the concepts are often multidimensional. A comprehensive approach to evaluation must be taken if substantial program improvement is to result (Knox, 1969).

In discussing some of the concerns in evaluating social action programs, Berlak (1970) stated:

"The central purpose of evaluating most social action programs is the broad measurement of change. Evaluation is a comparative and historical enterprise which can best be carried out as a part of a general effort to

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measure educational status and change. Aims of social action programs are diverse, and their purpose is to shift the position of specified target populations relative to the rest of society; their evaluation cannot be accomplished by isolated studies of particular aims with inappropriate standards of comparison. Evaluating broad social action programs requires comparably broad systems of social measurement."

The complexity of social action programs points up the need for broad systems of social measurement for measuring change. Since many of these social action programs are experimental in nature, the adult educator is interested not only in measuring change, but also in determining what is happening in the program and which methods are working so that this information can be used for program improvement.

## DEFINITION

The definition of evaluation in education has gone through many cycles. An early definition equated evaluation with measurement (Thorndike and Hagen, 1961.) Another widely accepted definition of evaluation has been that of determining the congruence between performance and objectives (Tyler, 1950). Another way of defining the concept is to say that evaluation is professional judgment. This is exemplified by the visiting team of experts who come to view a program and make a judgment. The judgment is the evaluation.

Evaluation is a mechanism with which the character of an educational enterprise can be explored and expressed. A definition for evaluation which can serve as a framework for a model to evaluate social action programs and educational programs for the disadvantaged needs to be comprehensive. Stufflebeam (1971) defines educational evaluation as the process of delineating, obtaining and providing useful information for judging decision alternatives.

Stake (1967[a]) presents this view:

"Curriculum evaluation requires collection, processing, and interpretation of data pertaining to an educational program. For a complete evaluation, two main kinds of data are collected: (1) objective descriptions of goals, environments, personnel, methods and content, and outcomes; and (2) personal judgments as to the quality and appropriateness of those goals, environments, etc."

In his definition Knox (1969) focuses on program improvement:

"Continuous program evaluation is the process by which evidence regarding program effectiveness is systematically collected, analyzed, and used to improve programs of continuing adult education."

Each of these definitions points to the need for evidence to be collected which can serve as a basis for decisions regarding educational programs. (Cohen. 1970) The decisions which need to be made cover a wide range including funding decisions as well as decisions regarding changes which need to be made to improve programs.

Scriven (1967) discusses two roles for evaluation. The first, formative, is designed to discover deficiencies and successes in the curriculum or program as it is in operation. Data are used to make judgments about what works when an educator is trying to make his ideas or ideals come about. It is often designed to answer why one thing works and something else doesn't. Formative evaluation is useful for program improvement since findings can be used as a basis for changing, maintaining or improving the program. The second role, which he calls summative, is designed to make an assessment of the final product. It is the evaluation which is done after a program is completed to determine what happened.

Most authorities do not use the terms evaluation and research synonymously. Suchman (1967) distinguishes between evaluation and evaluative research. He refers to evaluation as the social process of making judgments of worth. He says evaluative research utilizes scientific research methods and techniques to make an evaluation. Evaluative research refers to those procedures for

collecting and analyzing data which increase the possibility of "proving" rather than "asserting."

I am assuming that evaluation should be logical, empirical and objective. There may be occasions when evaluation can also be scientific, at other times this may not be possible and the nature of the evaluation may not demand it. Very often an evaluator is examining a specific program in a specific community and the degree of generalizability is limited. He may be describing what is rather than probing for why. Evaluation is not of lesser importance than evaluative research. Each has their place. In the rest of this discussion, as I use the term evaluation I realize that there are various levels of evaluation.

## MODEL

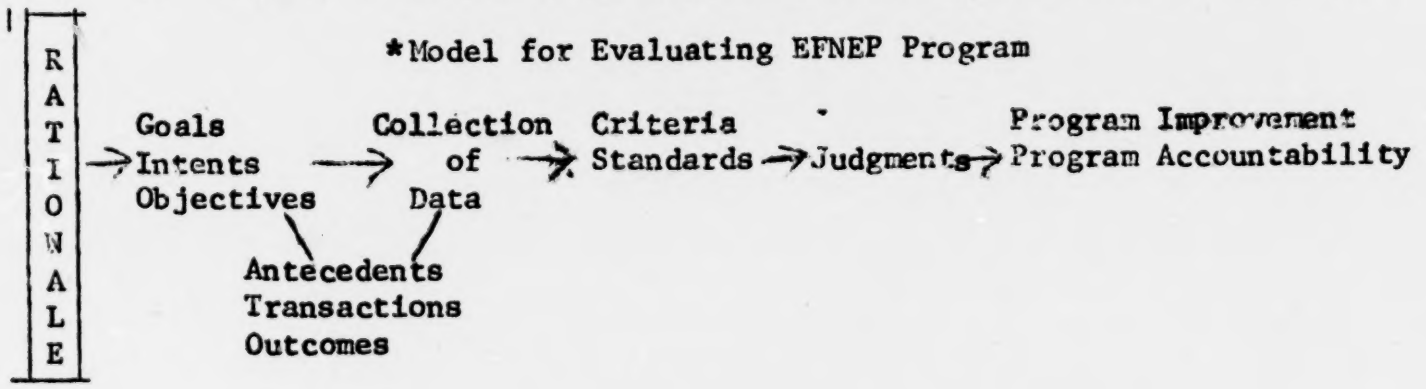
In this section a model will be presented for evaluating an educational program for disadvantaged families. The Expanded Food and Nutrition Education Program (EFNEP) is a federally funded program conducted by the Cooperative Extension Service. The program is in its third year of operation in Wisconsin. The objective of EFNEP is to improve the dietary level of low income families through education and improved use of resources. The achievement of this objective should give the participants a greater degree of control over their own lives.

The important innovation in this program has been the use of the paraprofessional. It was recognized that the paraprofessional could communicate with the program audience more readily than the professional. In most instances the paraprofessional begins her work with the families on a one-to-one basis.

This brief description of the EFNEP program points up the variety of dimensions which are a part of the program. An evaluation model is needed which will allow the evaluator to focus on several dimensions which will provide information to be used in making decisions regarding the program. Such a model would seem to have several purposes:

1. It forces the evaluators to formulate a broad conceptualization of the program.
2. Reminds the evaluator of the many facets which must be considered in relation to the program.
3. It offers some direction to the evaluation process.
4. It suggests the kinds of data which need to be collected.
5. Provide a framework for reporting findings from evaluation study.

*Model for Evaluating EFNEP Program




## DISCUSSION

### Rationale

Any program evaluation needs to begin with a statement of the program rationale. The rationale indicates the philosophic background and basic purposes of the program. The EFNEP is an outgrowth of national concern about poverty and hunger. Nutrition education is the vehicle being used to reduce the incidence of poverty and hunger. It is recognized that other problems

* In the formulation of this model I have drawn heavily upon Stake's model (1967[b]).

may have to be handled before nutrition education can begin and nutrition education may point to other problems needing attention. Through the employment of the indigenous paraprofessional it is hoped that families from the target audience can be reached more readily and that the communications will be easier. The income which the paraprofessional receives should give her additional economic power which theoretically should give her greater control over her own life. The evaluator needs to be cognizant of the program rationale as he formulates his evaluation plan. The rationale should provide one basis for identifying program goals, objectives or intents.

Goals, Intents, Objectives

The goals, intents or objectives of the program are drawn from the program rationale. The stated intents or goals as well as the unstated ones should be included in the evaluation. The goals of the learners as well as those of the educators should be considered. It must be recognized that these won't always be congruent. Examples of the goals included in EFNEP evaluation are:

- ability to manage resources
- improved nutritional knowledge
- improved food consumption patterns
- improved family relations
- improved family health
- ability to deal with problems not of a nutritional nature
- gaining control of life
- establishing a helping relationship
- increasing problem solving skill
- increasing individual growth and development
- ability to be better consumers

All of these goals would be examined in relation to the families participating in the program and many of them would also be examined in relation to the employed paraprofessionals.

Antecedents

Antecedents are those conditions existing prior to learning and tend to

be thought of as static. Many authorities refer to them as entry behavior levels or as a description of "what is" when the program begins. In EFNEP this description needs to include data on the learners, the para-professionals, the professionals and the programming situation in the county. Examples of antecedents to be described are:

- economic characteristics of the learners
- social and physical environment of the learners
- food consumption patterns of learners and paraprofessionals
- economic characteristics of paraprofessionals
- indigenous or ubiquitous paraprofessionals
- level of nutrition knowledge of paraprofessionals
- experience of professionals in this type of program
- staffing patterns in the county.

Transactions

Transactions are dynamic and include those activities in which learners and teachers engage, together with the instructional materials used. The physical and psychological environment in which learning occurs is important. A wide variety of transactions need to be examined in relation to EFNEP:

- relationship between paraprofessionals and families.
- relationships between paraprofessionals and professionals.
- relationship of paraprofessionals, professionals and volunteers.
- how paraprofessionals use teaching materials.
- learning situations provided for paraprofessionals.
- learning situations provided for professionals.
- ways in which paraprofessionals work with families-individuals-group.
- involvement of volunteers in the program.
- channels for decision making within the program.
- when it is appropriate to move families to another phase of the program.
- communication links between:
  - paraprofessionals and families
  - paraprofessionals and professionals
  - paraprofessionals, professionals and other community agencies
  - professionals and community influentials
  - professionals and co-workers within the organization

Outcomes

Attention will be given to both intended and observed outcomes. The intended outcomes relate back to the goals of the program. If different outcomes are observed as data are collected, they will be recorded and considered.

Observed outcomes take on additional importance when the concern is with evaluation for program improvement.

COLLECTION OF DATA

Some of the data needed for evaluation of EFNEP is available from reports and internal data systems. Methods need to be devised to collect data on attitudes, relationships, levels of knowledge, practices followed, communications links and the other data, which the goals, antecedents and transactions indicate are needed. Interview schedules, questionnaires, case studies and content analysis are all methods which can be used to collect these data.

For those concerned about collecting data on changes in attitudes, knowledge or behavior, evaluation of social action type programs present some methodological problems. (Cain and Hollister, 1969, Suchman, 1967) It is particularly difficult to predict long run or permanent behavior changes from the short term indicators revealed by an on-going or just completed program. Outcomes which we want to measure may occur months or even years after participants have completed the program. Multidimensional measures are often needed to evaluate social action programs.

Those concerned about doing higher level evaluation must decide if the use of experimental and control groups are a valid way to measure change. (Suchman, 1967, Cain and Hollister, 1969) Many educators raise ethical questions about this method of evaluating social action programs. For example, is it ethical to withhold a program from a group who needs it (control group) in order to be able to evaluate the results of a program. Suchman (1967) examined this issue and presented an alternative, the longitudinal study, which has relevance for social action evaluation.

The longitudinal design permits comparison of effectiveness of a program over a period of time. By making evaluations at different points in time one may check on the progress of the program toward its objectives and, at the same time, use the earlier measurements of subjects as a form of self-control against subsequent measures.

A variation of this design would involve the use of different populations at different stages of the program. If these successive cohort groups were representative of the same target population, it would be possible to evaluate effectiveness at different points in time. This design is also a more efficient design when it becomes difficult or impossible to keep in contact with the original subjects, as may be the case in many social action programs. It is my expectation that this variation of the longitudinal study will be used as we try to measure whether behavior change has occurred through EFNEP.

Content Analysis

Content analysis is a research technique for the objective, systematic and quantitative description of the manifest content of communications. (Berelson, 1951) Stake (1970) says the thorough evaluator attempts to analyze the documents of the community, the newspaper and the minutes of meetings to learn how ideas and values have fared across time. Content analysis is the technique which can be used to examine these documents. Dickinson and Rusnell (1971) used content analysis to examine the content of ADULT EDUCATION JOURNAL to ascertain trends and patterns in the content of the journals as indications of the development of the discipline of adult education.

Content analysis must be objective, systematic and quantitive. Objectivity stipulates that the categories of analysis should be defined so precisely that different analysts can apply them to the same body of content and secure the

same results. Content analysis needs to be systematic as it is designed for the establishment of scientific propositions. It is quantitative as it notes the extent to which the previously defined categories appear in the content.

We have used content analysis in EFNEP on the written logs which each paraprofessional writes after each visit to a family. A sample of logs covering at least ten visits by the professional to one family was used for analysis purposes. Four categories were generated:

> 1) Behavior toward: paraprofessional, food, food preparation, family, self, money; 2) Working relationship; 3) Skills in: meal preparation, meal planning, shopping; and 4) Problem solving: food preparation, equipment.

Three judges were trained to do content analysis of the logs. Training was necessary to establish reliability in their scoring. Each judge reads the logs, indicating the frequency of each category in the log, and assigning a positive, negative or neutral value to the category each time it is noted. Quantitative measurement is also noted on references to nutrition content, communications methods used and other problems mentioned. The mean of the judges' scores will be used to give a final score to each log.

These examples from logs will illustrate the use of content analysis:

"Mrs. X had been working at hospital as an aid but she left. All she was earning went for food as she had less time to bake and cook and was buying more prepared foods.[1] We made cupcakes. She has 3 burner gas stove and small oven. Only had 1 cupcake pan so we used broiler pan and cupcake papers.[2] Mrs. X did not measure ingredients when she baked.[3] The cupcakes turned out good.[4]"

1. Behavior toward food preparation (neutral)
2. Problem solving - equipment (+)
3. Skill in food preparation (neutral)
4. Skill in food preparation (+)

"Mrs. P. lost right hand at work. She thinks people don't want to see her.[1] She don't know how to cook much.[2] She had everything out for us to make baked custard.[3] While custard was baking I asked her what nutrition this dish have. She answer calcium from the milk but she didn't know about the eggs."

1. Behavior toward self (-)
2. Skill in food preparation (-)
3. Working relationship

These are isolated examples from the logs. As a series of logs relating to these families is analyzed you would hope to see trends developing.

Content analysis of logs is a time consuming process but it has several advantages. It gives an indication of growth (behavior change) in the four categories through the progression of visits. It also provides an indication of gaps in content, attitude or methods which can be corrected through training of the paraprofessionals.

Interview Schedules

We are currently using interview schedules with the paraprofessionals and with program families. The interviews are being conducted by professional survey research interviewers. The schedules were designed to collect data relating to the goals and transactions mentioned earlier. The interview schedules were pre-tested before being used in the field.

By comparing data collected through the interviews with base data collected when families began the program it will be possible to determine if behavior changes have occurred in food consumption patterns. Much of the data on transactions can be used to make changes in that portion of the program which will lead to program improvement.

One of the concerns of professionals involved with EFNEP is that too many families stay in the program longer than necessary after they have learned basic knowledge and skills. From the data we get from interviews with program families we hope to be able to establish some criteria which can be used to identify steps of progression for families in the program.

Criteria, Standards and Judgments

Criteria, evidence and judgment are three major elements of evaluation. Without criteria or standards, judgment cannot take place. Steele and Moss (1970) have discussed the criteria problem in adult education program evaluation. The criteria which would describe the EFNEP goals discussed earlier can be drawn from several sources. Research literature, authorities and personal experience are all valid criteria sources.

It is recognized that personal and institutional values will influence the definition of criteria. In EFNEP evaluation we have involved the professional, and in some cases the paraprofessionals, in helping to define the criteria which will be used in making program judgments. This process of defining criteria can be used to further clarify goals and intents and to examine the relevance of values to the situation. In formative evaluation as much of EFNEP evaluation is, we feel the evaluation experience itself can be a positive learning experience for the professionals and paraprofessionals involved and can result in program improvements.

After criteria are defined and evidence collected, judgments need to be made. In some instances the evaluator may make the judgments and present them to the decision makers. In other instances it may be appropriate to involve the program decision makers in making judgments. In our evaluation we hope to involve the program decision makers in making the judgments.

EVALUATING THE EVALUATION

Any evaluation effort must conform to certain criteria to justify being called acceptable. Stufflebeam (1971) discusses three types of criteria for evaluating evaluation information: scientific, practical and prudential. Scientific criteria includes internal and external validity, reliability and objectivity.

Evaluation information must be informative to the receiver. The practical criteria Stufflebeam (1971) discusses in this respect are: relevance of data to the purposes of the evaluation; importance of the data to the evaluation purposes; does the information have sufficient scope to be useful; is the information credible; is the information timely; and is the information being disseminated to all who need to know.

The prudential criterion Stufflebeam (1971) lists is efficiency. Time, cost and personnel needed are all efficiency factors which need to be considered

Those adult educators involved in program evaluation usually spend their time planning and conducting such evaluations and do not give adequate attention to how to improve evaluation efforts. If we are to improve our evaluation efforts in adult education we need to attend to the criteria discussed above.

Finally

Program improvement and program accountability are both legitimate outcomes for evaluation of adult education programs. As adult educators become more involved in social action type programs, a more comprehensive approach to evaluation must be taken. In selecting or formulating a model for evaluating these kinds of programs adult educators need to be specific about what they are doing but they also need to be alert to things whose relevance is not clearly known as yet. Plans need to be specific enough to show what they want most to describe, discover and communicate but open enough to report the unexpected. In order to improve the level of evaluation being done in adult education, adult educators need to evaluate their own evaluation efforts and use the results to improve future efforts.

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